

BACKGROUND OF THE INVENTION

The present invention relates to a RF remote control system for remotely controlling various electronic devices, and more particularly to a remote control system for remotely controlling such as, Automobile or aircraft Ignition interlock devices or an Automobile Alarm system or any industrial machinery by way of breath sample given by the operator into said RF Breathalyzer unit.

In recent years various remote control transmitters is been used in many different application such as remote garage door openers. Remote Car start unit. Remote car Alarm devices Etc. Used by transmitting an RF signal to a receiving device to control the operation of various electronic device.

In recent years various wrist or ankle mount RF transmitters are utilized in Home arrest system, which provides for determining from a central office the presence or absence of a person at an assigned home.

In addition Hand Held breathalyzer units is been used by police officers to test suspected drunk drivers, to determine if an operator of a vehicle is intoxicated or driving above state B.A.C. limits.

In recent years Vehicle installed Breath alcohol ignition Interlock system is been used to Prevent a vehicle from being started unless the operator passes a breath sobriety test by use of vehicle installed Breathalyzer device.

It is the primary objective of the present invention using a Remote hand held Breathalyzer equipped with an RF transmitter to communicate with a vehicle mount controller or machinery unit in order to give access to the operator to operate said vehicle or equipment upon or after user breath sample is analyzed by said remote Breathalyzer circuitry.

The present invention also capable of utilizing an operator identifying "Tag" unit mounted on the wrist or ankle of operator of the vehicle. The identifying "TAG" communicates with vehicle mount transceiver/controller unit in order vehicle mount control unit able to initiate random signals to the driver, to give a breath test sample into said RF breathalyzer to send a breath test "Pass" signal into said vehicle mount control unit able the drive to continue driving said vehicle without initiating an alarm signal. Present invention additionally utilizes a GPS base mobile phone unit, to help authorities locate Drunk Drivers location.

The prior arts fails to indicate use of remote RF transmitter using a built in breathalyzer to communicate with a vehicle mount transceiver unit to control the operation of a vehicle or a machinery, neither previously used hand held breathalyzer are able to transmit a B.A.C. (Blood Alcohol Content) data to a controlling module installed in a vehicle or on a machine. And previously used Breath Alcohol vehicle ignition Interlock devises in prior arts, non operates by a wireless remote control RF breathalyzer and fails to Identify the driver of a particular vehicle wearing wrist mount transmitter (Tag) unit and fails to initiate signals to the particular vehicle operator wrist "TAG" unit to give random breath sample into said remote Breathalyzer. And fails to sent said drunk drivers location by use of GPS.

It is primary objection of the present invention is been compact in size, mobile, easy to operate in and around the vehicle. At home or in a Bar "Pre-test" prior to operating a

vehicle or a Machinery. The materials are of shelve and can be easily found on the market and is inexpensive.

SUMMARY OF INVENTION

There many different breathalyzers in use today, one example such as stand alone portable Breathalyzer, primarily used by Police Officer to determine if an individual is drunk. A more sophisticated version is installed in vehicles as Breath Alcohol Engine Interlock Device to be used, as when a person prior starting a vehicle engine, first must give a breath sample into Breathalyzer, if alcohol is detected the interlock circuitry will not let the operator to start the vehicle engine.

In the present invention the Breath Alcohol Tester has a built in RF transmitter and it's powered by a battery. When the user gives breath sample into the RF Breathalyzer, the Breathalyzer will initiate a "pass" or "fail" RF signal with a unique code.

The RF Breathalyzer functions as follows:

User press the "RESET" button, within few seconds the RF Breathalyzer produces audible or visual (LED or ALPHANUMERIC LCD) signals indicating the breathalyzer is in "READY" mode, the user can proceed to give breath sample through the mouthpiece of the RF Breathalyzer, once breath sample received, the RF Breathalyzer will enter into breath "SAMPLING" mode. If breath sample given is none toxic the RF Breathalyzer displays visual "PASS" signal and transmit a unique RF pass coded signal. If the breath sample given by user is Toxic, then the RF Breathalyzer produces "WARNING" beep sound and displays visual "FAILED" signal and transmits a unique RF failed coded signal.

In the present invention, if breath samples given are bogus air or not given properly the RF Breathalyzer indicates audiovisual "ERROR" signal.

In the present invention the RF Breathalyzer is capable of indicating "LOW BATTERY" condition displayed by visual LED or by ALPHANUMERIC LCD letters to warn the user to replace or charge the built-in battery. Additionally in the present invention the Breathalyzer after each usage automatically shuts down its power to save battery.

In preferred embodiment of the invention the RF Breathalyzer upon receiving non toxic breath sample, the Breathalyzer enters "PASS" mode, the user then press the "TRANSMIT" button to transmit pass code RF signal to disarm a car engine immobilizer or an alarm system etc.

In the present invention the immobilizer alarm CPU system installed in a vehicle is capable of learning multiple RF remote control transmitters.

A- RF Breathalyzer transmitter with built in Breathalyzer.

B- Standard remote transmitter. Without built in Breathalyzer

A- RF Breathalyzer transmitter is preprogrammed into an immobilizer CPU, when immobilizer alarm CPU receives breath test "PASS" signal from RF Breathalyzer, the operator can start the vehicle engine successfully. During driving when vehicle ignition is "ON" position the immobilizer CPU will random sent audiovisual signal to the operator of said vehicle to give breath sample while driving, to avoid the driver from drinking alcohol during driving. If driver gives nontoxic breath sample into said RF Breathalyzer, the RF Breathalyzer transmits a pass-coded signal. The Immobilizer CPU upon receiving the "PASS" signal it will operate in its normal operating mode. If the operator of said vehicle fails does not bread or gives a toxic breath sample at a predetermine time, the immobilizer CPU will flash the vehicles lights, Hunk the Horn and immobilize vehicles Engine Starter and or Fuel Pump or Ignition.

B-When a standard remote control transmitter is programmed into an immobilizer CPU installed in a vehicle. The CPU will arm and disarm by receiving unique RF coded signals from the RF transmitter. When vehicle ignition is 'ON' position the CPU will not initiate audio visual or vibrating signal to the driver in order to give breath sample through a breathalyzer unit. Because the immobilizer CPU logic will differentiate the standard transmitter code from that of RF Breathalyzer code. These remotes will be given to vehicle operators whom are not required to give breath test sample to operate the same vehicle.

In a preferred embodiment of the invention, the immobilizer CPU can be connected to a mobile phone auto dialer (modem) or a radio pager transceiver with a GPS antenna installed within the vehicle. When the user fails to breathe or gives a toxic breath sample, the immobilizer sends a alarm mode signal to said mobile phone/pager unit which will send a signal to a monitoring station with analogue (voice message) or a digital data, indicating said operator ID and vehicle ID along with it's location to a monitoring station which is capable of locating said vehicle location with GPS locator PC. Upon locating the vehicle the monitoring station notifies patrol cars to intercept and arrest the intoxicated operator of said vehicle.

In the present invention the immobilizer CPU is passive arming, could be armed by turning the vehicle ignition off.

In addition in the present invention the monitoring station could be a patrol vehicle, in this case the vehicle is equipped with a mobile phone or a radio receiver and a PC capable of receiving digital and analogue signals from vehicles equipped with breathalyzer and mobile phone/pager transceiver units with GPS, in which when driver fails the breath test, the patrol vehicle can locate the drunk driver, by means of GPS locating system installed in the patrol vehicle.

A more effective way of using the invention, such as a person under home arrest wearing on their wrist a temper-proof transceiver device powered by battery sending RF signals periodically, when the individual wearing the transceiver driving a vehicle equipped with immobilize CPU. The CPU receiver upon receiving wrist transceiver signal. The CPU initiates audio visual or RF signal to the wrist transceiver device and when the wrist transceiver receives the RF signal, the wrist transceiver built-in vibrator vibrates to signal the driver of the vehicle to give a breath sample through the breathalyzer installed in the vehicle or through the RF breathalyzer

In the present invention the CPU immobilizer can initiate random signals to the driver to give breath samples to avoid the driver from drinking and driving.

Additionally, in the present invention, a person wearing temper proof wrist transmitter, when there in a vehicle their presence can be monitored and time stamp by the receiver CPU. The data could be downloaded to a monitoring station via a radio pager or a mobile phone device located with-in the vehicle. The invention also is capable of reporting to monitoring station the "absence" from vicinity of the vehicle of the temper proof transmitter and report such events to a monitoring station via mobile phone/pager indicating person wearing temper proof transmitter is not in or near by the vehicle at a time period.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a Breathalyzer with RF transmitter. A- With LED indicator B- with LCD indicator.

FIG. 2 A- is a Breathalyzer immobilize/ Alarm control CPU.
B- is a wrist Transceiver unit

FIG.3 is a block diagram of a general RF Breathalyzer with vehicle control system

DETAILED DESCRIPTION OF THE INVENTION

For the better understanding of the present invention a general remote control system and a Breathalyzer remote control signal will first be described below.

As shown in FIG. 1-A a RF Breathalyzer system 19 comprises a transmitter 27 for transmitting a remote control signal controlled by a Breathalyzer 21 to analyze breath sample given by user through mouthpiece 23. Tree color LED 22 indicting operation statues. A beeper 20 indicating system ready and test failed warning beep. Reset button 24 to turn system on. Transmit buttons 26 and 28 for transmitting RF commands.

Additionally FIG. 1-B illustrates an RF Breathalyzer with alphanumeric operation status LCD.

As shown in FIG. 2-A an Immobilizer CPU 36 for receiving 32 commands from RF Breathalyzer 19 or Breathalyzer 18. Receive signals from wrist Transceiver 40 and receive signals from GPS antenna driver 47. A Transmitter 37 to transmit RF signals to wrist transceiver unit 40. A buzzer 30 to signal the driver to give breath sample. And controlling a vehicle mount LED38 indicating system arm disarm status. Controlling vehicle horn 31 indicating driver sobriety test fail alarm signal. Controlling vehicle lights 33 indicating driver sobriety test fail alarm signal. Controlling vehicle starter solenoid 39 and ignition 34 to interlock vehicle ignition. Controlling a vehicle mount mobile phone auto dialer (modem) or a pager 29 to report driver sobriety test fail alarm and location signal to a monitoring station and Receiving commands from monitoring station And controlling vehicle mount vibrator 48 to signal driver to give random breath sobriety test.

As shown in FIG. 2-B a wrist transceiver 40 having a battery 44 as power supply, for transmitting a presence ID unique coded signal to vehicle mount Immobilizer CPU 36. Receiving signal from vehicle mount Immobilizer CPU 36 and vibrate the built vibrator 46 to signal the operator of vehicle to initiate breath sample into said Breathalyzer 18 and 19. And a conductive strap 42. if strap is been tempered the wrist transceiver 40 stops transmitting.

The present invention utilizes a remote control Breathalyzer with built in transmitter 19, powered by a battery 17. In order to operate the RF Breathalyzer 19 user must press the reset button 24 to power up the system, within few seconds the built in beeper 20 beeps

and the LED 22 flashes green or the Alphanumeric LCD 25 display system ready letter. The operator gives breath sample into the RF breathalyzer 19 through the mouthpiece 23. Once breath sample received, the RF Breathalyzer 19 enters into breath "sampling" mode the LED 22 will flash yellow or Alphanumeric LCD 25 will display "sampling". If breath samples given is none toxic the RF Breathalyzer 19 LED 22 turns steady green or Alphanumeric LCD 25 displays "pass" signal and transmit a unique RF "pass" coded signal. In the preferred embodiment of the invention Transmitting of "pass" coded signal is initiated by user by pressing transmit button 26. If the breath sample given by the operator is toxic, then the RF Breathalyzer produces a warning Beep through said beeper 20 and LED 22 will flash red. Or alphanumeric LCD 25 will display "failed" signal and transmits a unique RF failed coded signal. If breath sampling given are bogus or given in properly the RF Breathalyzer 19 Beeper 20 will beep. LED 22 turns steady red or the alphanumeric LCD 25 displays "error" signal. After each usage the system automatically shuts down to save battery. If and when there is a low battery condition within the RF breathalyzer 19 the LED 22 turns steady yellow or alphanumeric LCD 25 displays "low battery" signal.

RF Breathalyzer could be used in many applications such as when it's used with a vehicle mount immobilizer CPU 36. The Immobilizer CPU will arm in passive mode such as by user turning of vehicle ignition 34. When immobilizer CPU 36 receives breath test "Pass" signal from RF Breathalyzer 19 unit the operator can start the vehicle engine successfully. During vehicle ignition "on" position the immobilizer CPU 36 will random sent audio-visual signal through beeper 30 LED 38 to the operator of the vehicle, to give breath sample through said RF breathalyzer while driving, to avoid the driver from drinking during driving. If driver gives nontoxic breath sample, the RF breathalyzer 19 transmits a "pass" coded signal, the immobilizer CPU 36 upon receiving the "pass" signal it operates in its normal operating mode. If the operator fails to breathe or gives toxic breath at a predetermine time, the immobilizer CPU 36 will flash the vehicle lights 33, hunk the horn 31 and immobilize the vehicle starter 39 ignition 34 or fuel pump circuitry.

The vehicle mount Immobilizer CPU 36 could be operated with standard RF remote control unit (without breathalyzer) For individuals for whom it is not necessary to use breathalyzer in order to operate a vehicle. The immobilizer CPU 36 will arm and disarm by receiving unique RF coded signal from a standard RF transmitter. Said vehicle immobilizer CPU 36 identifies the different codes between user using RF breathalyzer 19 or that of standard RF remote code. When vehicle ignition is "on" position the immobilizer CPU 36 will not initiate audio-visual or vibrating signal to the driver through vibrator 48 installed under the seat of vehicle in order the driver to give breath sample.

In a preferred embodiment of the invention a GPS antenna 47 is connected to a mobile phone/ pager 29 or a satellite modem unit is installed on a vehicle. If and when operator Fails to breathe during a sobriety test or gives toxic breath to said RF breathalyzer 19 the vehicle immobilizer CPU 36 sends a alarm signal to a monitoring station through said mobile phone 29 with data information containing operator ID, vehicle ID and it's location.

For more effective way of use of invention the person to be monitored under DUI, additionally a temper proof wrist transceiver 40 could be installed on a person to be monitored. When the immobilizer CPU 36 receives wrist transmitter 40 signal. The immobilizer CPU 36 will initiate audio- visual or RF signal which is received by wrist transceiver 40 unit and wrist transceiver 40 upon receiving said signal will vibrate the built in vibrator 46 to signal the driver to give breath sample through said breathalyzer 18 installed within said vehicle or through the RF Breathalyzer 19.

In the present invention the immobilizer CPU 36 receiving signal from said person temper proof wrist transceiver 40 when said person is within or around the vehicle, said persons presence is monitored by the immobilizer CPU 36 said receiving data could be downloaded to a monitoring station via a mobile phone/pager devise located within the vehicle.